Contents

Foreword	xv
The Seto Inland Sea Declaration	xvii
SESSION I: Present State of Environmental Pollution at Enclosed Coastal Seas and Measures for Environmental Protection	3
Meteorology and Oceanography in the Seto Inland Sea by Katsunobu Nishiyama, Toshihiko Yano, Hiroki Suzuki and Hayato Iida	5
Runoff Characteristics of COD, BOD, C, N and P loadings from Rivers to Enclosed Coastal Seas by Takanobu Inoue and Senichi Ebise	11
Pollution and Protection of Bohai Bay by Ye Changming	15
Water Quality Management Issues in Lingayen Gulf, Philippines and Some Proposed Solutions by Flordeliz Y. Guarin	19
Evaluation of Primary Production Loads and Their Control in Enclosed Seas by H. Nakanishi, M. Ukita and M. Sekine	25
Outflow and Three-dimensional Spreading of River Water in Enclosed Bay by K. Nakatsuji, N. Yamamoto and K. Muraoka	31
Circulation and Pollutant Dispersion in Masan-Jinhae Bay of Korea by See Whan Kang	37
Water Exchange and Transport of Matter in the Seto Inland Sea by Hidetaka Takeoka	41
A Numerical Simulation of Water Quality in Tokyo Bay by N. Hamano and Y. Nakagawa	45
Field Survey and Hydraulic Study of "Aoshio" in Tokyo Bay by K. Otsubo, A. Harashima, T. Miyazaki, Y. Yasuoka and K. Muraoka	51
North Sea Strategies by P. H. A. Hoogweg, K. J. Wulffraat and B. G. M. Van De Wetering	57
A 5-Year Scientific Research Programme for Managing Coastal Seas	63

Investigation on Turbidity and Flow Patterns in Half-closed Sea Area by K. Abe, Y. Inomata and S. Ogata	69
Fluidization of Marine Mud by Waves	
by H. T. Chou, J. R. Hunt and M. A. Foda	75
Water Quality Assessment and Protection Measures of a Semi-enclosed Coastal Area: the Bay of Thermaikos (NE Mediterranean Sea)	
by J. G. Ganoulis.	83
Status of Eutrophication in the Great Barrier Reef Lagoon	
by Peter R. F. Bell.	89
Eutrophication in Hiroshima Bay	
by T. Seiki, E. Date and H. Izawa	95
Heavy Metal Pollution in Sediment from the Seto Inland Sea, Japan	
by A. Hoshika, T. Shiozawa, K. Kawana and T. Tanimoto	101
Scavenging Processes of Marine Particles in Osaka Bay	
by Shigeru Montani, Yasufumi Mishima and Tomotoshi Okaichi	107
Seagrass-Mangrove Ecosystems Management: A Key to Marine Coastal Conservation in the ASEAN Region	
by Miguel D. Fortes	113
Present State of Environmental Pollution in Coastal Sea Area and Measures for Protection	
by P. E. Mihnea, E. Cuingioglu and I. Pecheanu	117
Use of Respiration in the Sandy Beach or on the Tidal Flat: 1. Permeable Sandy Beach	
by Ichitaro Sakamoto	123
Change of Oceanic Condition by the Man-made Structure for Upwelling by T. Yanagi and M. Nakajima.	131
Effect of a Spring Phytoplankton Bloom on Dissolved Copper Speciation in Bedford Basin	
by D. E. Slauenwhite, P. J. Wangersky and B. D. Johnson	137
Impact of Nutrient Enrichment and their Relation to the Algal Bloom in the Adriatic Sea	
by Ilija Vukadin	145
Summary of Ports and Marine Environment Improvement Work and Example of Latest Measures in Seto Inland Sea	
by Atsushi Kawai	140

Beach Nourishment and Field Observation of Beach Changes on the Toban Coast Facing Seto Inland Sea	155
by T. Kadomatsu, T. Uda and K. Fujiwara	155
SESSION II: Ecological System and Fishery Resources in Enclosed	
Coastal Seas	161
Life Cycle Strategies of the Red Tide Causing Flagellates <i>Chattonella</i> (Raphidophyceae) in the Seto Inland Sea	
by Ichiro Imai, Shigeru Itakura and Katsuhiko Itoh	165
Changes and Stress Signs in Plankton Communities as a Result of Man-Induced Perturbations in Enclosed Coastal Seas (Mediterranean, Baltic)	
by B. Kimor	171
Growth Potentials of Red Tide Phytoplankters in Coastal Seawater by AGP	
Assay by T. Nishijima and Y. Hata	175
by 1. Nongina and 1. Hata	1/3
Bloom of <i>Coscinodiscus wailesii</i> and DO Deficit of Bottom Water in Seto Inland Sea	
by T. Manabe and S. Ishio	181
Population Dynamics of Dinoflagellate Community in Masan Bay with a Note on the Impact of Environmental Parameters by K. I. Yoo.	185
Interaction Between Chattonella and Bacteria and Prevention of this Red Tide	
by Masakazu Furuki and Minoru Kobayashi	189
Environmental Constraints on the Sand Lance Population in the Eastern	
Seto Inland Sea	
by H. Nakata, S. Kimura, M. J. Kishi and T. Fujiwara	195
Recovery of Aquatic Animals in Dokai Bay, Northern Kyushu, Japan by M. Yamada, R. Takeuichi, S. Sueta, K. Kido, Y. Yabumoto and Y. Yoshida	201
Survey of Natural Resources of the Commune	
by Pierre Raynaud	209
Long Term Ecological Changes in the Gulf of Thailand	212
by Sunee Suvapepun.	213
Introduced Species—Resource or Threat in Brackish-water Seas? Examples from the Baltic and the Black Sea	
hu E. I. I. annäkoski	210

Eastern Mediterranean—a Marine Desert? by Y. Azov	225
Benthic Faunal Succession in a Cove Organically Polluted by Fish Farming by H. Tsutsumi, T. Kikuchi, M. Tanaka, T. Higashi, K. Imasaka and M. Miyazaki	233
Effects of Oil Pollution on Bio Ecology and Fisheries on Certain Enclosed Coastal Regions of Arabian Sea by V. D. Ramamurthy.	239
	433
Ecological Modelling at Osaka Bay Related to Long-Term Eutrophication by Takeyuki Doi and Akira Nitta	247
Evaluating Method of the Marine Environmental Capacity for Coastal Fisheries and Its Application to Osaka Bay	
by Kenji Horiya, Takuro Hirano, Masahiro Hosoda and Toshiyuki Hirano	253
Simulation of Bioecological and Water Quality Processes in Enclosed Coastal Seas	
by D. E. Reeve, C. R. Hoggart and S. R. Brown	259
A Quantitative Method for Description & Assessment of Ecosystems: the AMOEBA-approach	
by B. J. E. Ten Brink, S. H. Hosper and F. Colijn.	265
An Important Problem for Oyster Farming in Enclosed Coastal Waters by Yoshio Sugawara and Kenji Okoshi.	271
Mariculture and Eutrophication in Jinhae Bay, Korea by Chang-Hwan Cho	275
Studies on the Situation of Pollution and Countermeasures of Control of the Oceanic Environment in Zhoushan Fishing Ground—the Largest Fishing	
Ground in China by Peizhe Liu, Yongquan Yu and Chunyu Liu	281
Incidence and Ecology of Marine Fouling Organisms in the Eastern Harbour of Alexandria, Egypt	
by Mohamed M. El-Komi	289
Scallop Culture and Its Supporting System in Mutsu Bay by Toshiharu Ozaki, Koji Mitsuhashi and Masayoshi Tanaka	297
Fisheries Management of a Small Shrimp Trawl in the Seto Inland Sea— Discarded Fishes and Mesh Size Regulation	
by Tadashi Tokai and Takeru Kitahara	305
Manila Bay: Status of Its Fisheries and Management	244
hy Jessica C Munoz	311

Utilization of the Biological Production in Eutrophicated Sea Areas by Commercial Fisheries and the Environmental Quality Standard for Fishing Ground	
by Kaoru Tatara	315
Creation of a New Nonfeeding Aquaculture System in Enclosed Coastal Seas by M. Inui, M. Itsubo and S. Iso.	321
SESSION III: Appropriate Use of Enclosed Coastal Seas	327
Egyptian Approach Towards Appropriate Use of Coastal Zones on the Red Sea	
by El-Mohamady E. Eid and Mohamed A. Fawzi	331
Developmental Project of Thalassotherapy in the Japanese Coastal Area by Tadashi Nomura.	339
Impact of Coastal Development on the Infralittoral Zone Along the Southeastern Mediterranean Shore of Continental France	
by A. Meinesz, J. R. Lefevre and J. M. Astier	343
The Kansai International Airport Project and Environmental Impact Assessment	
by Minoru Maeda	349
Modern Environmental Assessment Procedures for Enclosed Seas by Terry Healey and Kenichi Harada	355
Toward Environmental Planning for East Asian Estuaries: Japanese and Chinese Enclosed Bays	
by H. A. Shapiro	363
Sustainable Utilization of Resources and Environmental Management in Coastal Areas of the Harima Sea (Eastern Area of the Seto Inland Sea)	
by Shigeyuki Fujiwara and Saburo Ikeda	369
Ecological Assessment of Semi-enclosed Marine Water Bodies of the Archipelago Sabana-Camaguey (Cuba) Prior to Tourism Development	
Projects by Pedro M. Alcolado	375
A Study on Model Reference Adaptive Pollution Control in Enclosed Coastal Sea	
by Etsuo Yamamura and Mitsuru Ota	379
Necessary Conditions for the Development of Waterfronts as Desirable Environments	
by Takeshi Hata, Yuuichi Hasegawa, Masatoshi Itotani, Takayuki Adachi,	383

Wakayama Marine City Project in Wakanoura Bay—Utilization of the Coastal Zone through Construction of Artificial Island by Tatsuyuki-Shishido	389
Major Characteristics of Urban Waterfront Redevelopment in Japan by Yasuji Yabe	397
An Example of Possible Innovations in Mediterranean Marina Design by M. Apicella, E. Benassai, M. Dinatale and E. Panelli	403
Guidelines for Conservation and Development of the Seto Island Sea Environment by Kuniaki Nagamitsu	411
Strategies for Restoring and Developing Fish Habitats in the Strait of Georgia—Puget Sound Inland Sea, Northeast Pacific Ocean by Colin D. Levings	417
Oyster Resort, Ishinomaki—A Proposal for Water Front Development in Enclosed Coastal Seas by Kenji Okoshi and Yoshio Sugawara	423
Problems of Enclosed Coastal Seas Development: The Bintuni Case, Irian Jaya, Indonesia by Edy Brotoisworo	431
Man-Made Garbage Pollution on the Mediterranean Coastline by G. P. Gabrielides, A. Golik, L. Loizides, M. G. Marino, F. Bingel and M. V. Torregrossa.	437
Environmental Assessment of Wastewater Marine Disposal of Xiaogang Zone, Ningbo by Huang Minyung, He Qiang, Han Zencui, Chen Hangpin, Liao Xiangui and Chao Xinzhong.	443
Assessment of the Environmental Capacity of Enclosed Coastal Sea by S. Tedeschi	449
Inhabitants' Response to Marine Resort Development by Hiroshi Murakami	457
Ideal Grand Design for Enclosed Coastal Seas by Hideki Kaya	463
Sustainable Development and the Management of the Japanese Inland Sea by Tadayuki Nishimura	469
SESSION IV: Management and Administration of Enclosed Coastal Seas .	475
Countermeasures Against Water Pollution in Enclosed Coastal Seas in Japan by T. Hisano and T. Hayase	479

Contents

Environmental Management of the Seto Inland Sea by Hirokazu Yasui and Etsuo Kobayashi	485
An International Programme for the Protection of a Semi-enclosed Sea— The Mediterranean Action Plan by A. Manos.	489
Environmental Research, Policy and Regulation: The Chesapeake Bay	
Experience by T. C. Malone and W. H. Bell	497
Non-Regulatory Approaches to Management of Coastal Resources and Development in San Francisco Bay by Peter Grenell.	503
Environmental Management of the Puget Sound by Nancy McKay	
Enclosed Sea and Its Coastal Area as A Model of The Global Environment— Three Conditions for Realizing "Sustainable Development" and Environmental Education	
by S. Hayashi	513
Sea and Fresh Water Conservation by K. Hattori, Y. Inoue and T. Okumura	519
On the Controlling Effect of the Planned Management of the Environment in the Kagoshima Bay on the Pollutant Load by Kazuyuki Yamano	525
Integrated Management of the Baltic Sea by Ronny Ferm.	533
Protection of the Marine Environment of the Baltic Sea—An Example on	
Multilateral Co-operation by J. T. Kohonen	541
Rules of Protection of Gulf Sea Waters in Poland in the Light of International Co-operation within Helcom by Piotr Krzyżanowski.	515
	343
Environmental Information Processing of Closed Bay Area by Remote Sensing by S. Omatu, T. Soeda and K. Kitamura	551
Personal Computer System Supporting Water Quality Management in Eutrophicated Bay	
by Tohru Morioka, Yoshinobu Kido, Akira Miichi and Mitsuru Nakadan	557
New Legal Viewpoints for Development and Conservation of Enclosed Coastal Seas	
by Kenji Sanhongi	563

Management of the Marine Environment in Western Australia: An Ecosystem Approach by R. J. Pearce	567
Environmental Management of the Bohai Sea in China by Xu Qiwang and Zheng Jinlin.	573
State of Coastal Resource Management Strategy in Thailand by Monthip Sriratana Tabucanon	579
Conceptual Framework of Environmental Management Strategies for Yugoslavia: the Case of the Adriatic Sea by Velimir Pravdić.	587
An International Comparison of Sustainable Coastal Zone Management	
Policies by Ferenc Juhasz	595
SESSION V: Enclosed Coastal Seas and Human Activities	603
Environmental Activism in the San Francisco Bay Estuary by M. W. Monroe.	607
Pressure on the Endangered Mediterranean Marine Turtles is Increasing. The Role of MEDASSET by L. E. Venizelos	613
The "Parque de Donaña", and its Contribution to Environmental Activities for Environmental Protection by Jose Maria Blanc Diaz	
Citizens' Movements to Protect the Environment of Rivers Flowing into the Seto Inland Sea—An Example of a Citizens' Movement Along the Toga	
River by Yoshinobu Hashimoto	621
A Suggestion about Environmental Education Using the Five Senses by Tatsushi Kobayashi	623
Nongovernmental Educational Activities for Environmental Protection by Naoki Komoda	627
A Network of Regional Centres of Environmental Education and Training: A Strategy for Developing Countries by Leandro A. Viloria	633
Providing Access for the Public to the Shoreline of San Francisco Bay by Nancy Wakeman	637
Definition and Physical Characteristics of the World's Enclosed Coastal Seas by Terry Healy and Kenichi Harada	639

The National Estuary Program and Public Involvement	
by Michelle A. Hiller	. 645
The Formation of Sacred Places as a Factor of the Environmental	
Preservation: The Case of Setonaikai (Inland Sea) in Japan	
by Masaki Kondo	649
	. 012
Water Control Systems and the Traditional Festival at Miyawaki, on the Seto	,
Inland Sea	
by Tsutomu Oohashi and Masafumi Kono	. 653
POSTER SESSION I	
Formation of Oxygen-Deficient Water Mass in Omura Bay	
by Satoshi Akagi and Fumitoshi Hirayama	. 661
Eutrophication Mechanisms of Coastal Seas in Yamaguchi Prefecture	
by Katsumasa Tanaka, Yukiya Imatomi, Kazumasa Saeki, Seiji Furutani,	
Kazuhiko Torii and Hiroshi Matsumura	. 665
Regional-Wide Waste Disposal Project on Seacoast of Enclosed Coastal Sea	
by Tohru Katayama and Osamu Ata	
Oy 2011 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. 007
Bottom Topography and Sedimentation of the Seto Inland Sea Bottom	
Current due to the Earth Rotation Effect	
by H. Yasuda and T. Higo	671
Eleve Characteristics Coverning the Distribution of Water and Dettern	
Flow Characteristics Governing the Distribution of Water and Bottom Quality in a Semi-enclosed Sea	
by Tateki Fujiwara and Hideaki Nakata	675
by fatch I ajimara and Hacani Panada	015
Comparison of Nutritional Environment of Closed Coastal Seas in Western	
Kyushu	
by S. Uno	679
The Water Quality Purification System for the Enclosed Sea Area	
by Kazuaki Akai, Sinzou Ueda, Yasuhiko Wada and Ryouhei Tuda	683
by Indiana zinai, bindou beau, Insurano rinai ana Ilyonne inain	000
Heavy Metals Contamination in the Polish Zone of Southern Baltic	
by K. Korzeniewski and E. Neugebauer	687
Sewage Treatment and Disposal Strategies in Greece	
by J. A. Leontaritis	691
Sediment Transport on the Foreshore	
hu I Alansa	605

Pollutant Transport Monitoring and Prediction by Mathematical Modelling: North Sea and Adjacent Estuaries by J. Krohn, A. Müller and W. Puls	699
Measures for Purification of the Leachate from "Renseanlæg Damhusåen" into Copenhagen Waters, to meet the NPO-plan. by Berit W. Pettersen, A. Behrens and A. Østerby.	703
POSTER SESSION II	
Marine Pollution Bioassay by Using Sea Urchin Eggs in the Tanabe Bay, Wakayama Prefecture, Japan, 1970–1987	700
by Naomasa Kobayashi	709
Flow Estimation in Shallow Waters by the Behavior of Shellfish Poison Producing Plankton and Toxicity by Jun Iwasaki and Atsunobu Hamada	715
Construction of Artificial Seaweed Bed Accompanied with the Reclamation for Unit No. 3 of Ikata Power Station by Hirofumi Yokouchi, Ryoichi Yamamoto and Yukihito Ishizaki	719
Seasonal Changes of Organic Carbon and Nitrogen Production by Phytoplankton in the Estuary of River Tamagawa	
by Yukuya Yamaguchi, Hiroo Satoh and Yusho Aruga	723
Estimation of the Volume of Fishery Sources and Evaluation of the Catch Effort Impact Based on Statistical Data by Hajime Yoshida	727
by Hajime Toshaa	121
Toxic Effects of Triorganotins on the Adhesion and Germination—Growth of Conchospores of <i>Porphyra yezoensis</i> , Red Arga by T. Maruyama, D. Sun, S. Hashimoto and A. Miura	729
Coal Mine Waters and Their Influence on the Purity Ecological State of River and the Fish Production	
by S. Radwan, Cz. Kowalczyk, B. Jarzyna, A. Paleolog, W. Zwolski and W. Kowalik	733
POSTER SESSION III	
Succession of Benthic Assemblages in Wild Bird Park, a Sanctuary Established on Reclaimed Land in Osaka Port	
by Hisashi Yokoyama, Tatsumi Umehara and Kunio Oda	739

Flow Control Technology for Enhancement and Diverse Use of the Marine Environment by H. Ueshima, H. Tanabe, M. Takarada, I. Yuasa, E. Hashimoto and	
M. Yamasaki	743
Environmental and Biological Changes Related to Recent Human Activities in the Mar Menor (SE of Spain)	
by A. Perez-Ruzafa, C. Marcos-Diego and J. D. Ros	747
East Asian Seas: Hypothetical Oil Spill Trajectories by Mark J. Valencia.	753
POSTER SESSION IV	
Computer Visualization System for Sediment Pollution in Japan by K. Taki, A. Takemoto and M. Hosomi	761
Numerical Simulation Model for Quantitative Management of Mariculture by Michio J. Kishi, Yoshiyasu Iwata and Masato Uchiyama	765
An Administrative Regulation Pattern of Coastal Management for Mediterranean Sea: Spanish Shores Act, July 1988 by Francisco J. Montoya.	769
Improved Policy Instruments for Management of Enclosed Coastal Seas and Estuaries: The Chesapeake Bay, USA by John H. Cumberland	773
Managing Coastal Resources in Cilacap, Indonesia, and Lingayen Gulf, Philippines—an ASEAN Initiative by J. N. Paw and TE. Chua.	779
LENKA—a Method for a Nation-wide Analysis of the Suitability of the Norwegian Coast for Aquaculture by H. Kryvi, H. O. Ibrekk and S. Elvestad.	785
Aquaculture in Chilean Enclosed Coastal Seas. Management and Prospects by A. L. Alvial.	789
Legal System and Management of Southern France Lagoons by William Coulet	793
Legal System Relating to Shellfish and Fish Farming in Southern France Lagoons by Michel Despax	797

Contents

POSTER SESSION V

Biopolitics International Organisation International University for the	
Bio-Environment	
by Agni Vlavianos-Arvanitis	803
Environmental Education and Nongovernmental Activities in Protecting the	
Enclosed Coastal Sea of the Malacca Straits	
by P. M. Sivalingam	807
Author Index	811

